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A DATA STRUCTURE AND METHOD FOR
DETECTING CONSTRAINT CONFLICTS IN
COORDINATION-CENTRIC SOFTWARE SYSTEMS

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Abstract of the Disclosure

A data structure and method of detecting constraint conflicts in a software system, prior to execution, is described wherein the data structure and method

15   represent the static aspects of a software system having at least two software elements with explicit control interactions between the software elements. A software system's control constraints can be graphically-represented by a static control graph (SCG). An SCG represents the static aspects of systemwide control. A simple SCG includes conjunctive nodes, modes represented by disjunctive

20   nodes, and edges that connect two nodes and represent implication between the nodes. The most important use of an SCG is in identifying constraint conflicts in which two active constraints try to force a disjunctive node in opposite directions. An SCG facilitates identification of the set of mode states that cause a control constraint conflict and adjustment of the constraint to remove the conflict.

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